

REMARKS

By this Amendment, claims 1 and 4 have been amended. Claim 1 has been amended to more particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 4 has been amended to correct a typographical error. No claims have been canceled and no new claims have been added to the application. Accordingly, claims 1-7 are pending in the application, with claims 3-7 having been withdrawn from consideration as being directed to non-elected species. Applicant notes that claim 1 is generic to all disclosed species and that, upon allowance of claim 1, claims directed to the non-elected species (i.e., claims 3-7) must be considered by the Examiner. No new matter has been added to the application.

Applicant notes that pages 2-5 of the Office Action mailed on July 9, 2008 include a column of comments along the right side of each page that track the changes made by the Examiner to a document unrelated to the present application. Applicant has ignored the text set forth in this column on the belief that the Examiner did not intend for it to be printed and made of record in the instant application.

In the prior Office Action, the Examiner objected to the drawings on grounds that they failed to show every feature of the invention specified in the claims. The Examiner requested that corrected drawing sheets be submitted to show every feature specified in the claims.

In response, applicant notes that the drawing figures clearly show every feature of the invention specified in claim 1. Accordingly, no corrected drawing sheets need to be submitted. In order to demonstrate that the drawing figures clearly show every feature of the invention specified in claim 1, Figs. 1-3 and 5B

(which show a first embodiment of the invention) and claim 1, as amended, are reproduced below (bold reference numbers have been added parenthetically to claim 1 to facilitate rapid confirmation that the drawings do show the features of the invention as claimed):

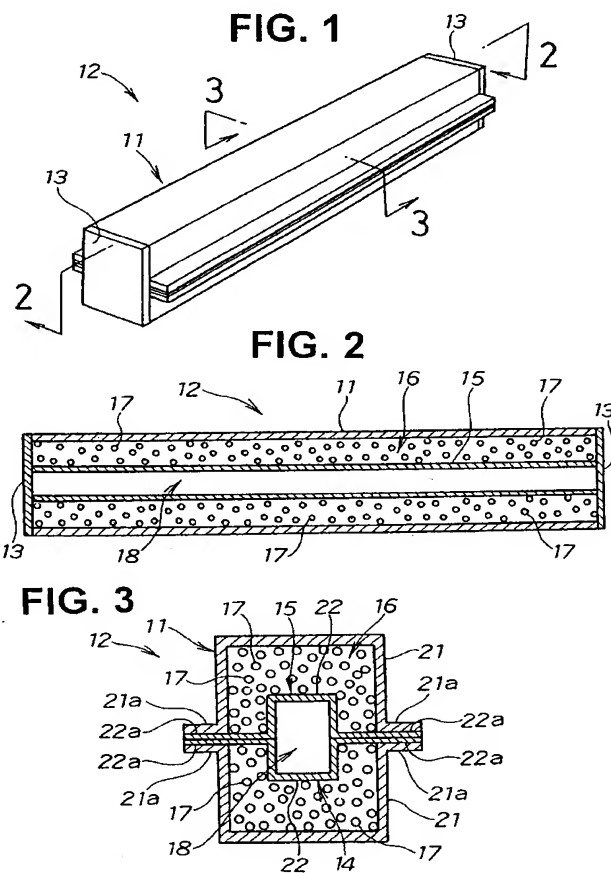
CLAIM 1 (AS AMENDED)

A skeleton structure member (12) for use in a transport machine, the skeleton structure member comprising:

a skeleton member (11);
multiple granules (17) packed in a space (16) that is inside the skeleton member and/or bounded by the skeleton member and a panel member around the skeleton member; and

a granule flow allowing part (14) provided close to the multiple granules (17) packed in the space (16) and extending along an axial direction of the skeleton structure member, the granule flow allowing part (14) being adapted to allow flow of the multiple granules (17) in a direction perpendicular to the axial direction so as to suppress an excessive pressure increase in the space when an axial compressive load (F) is applied to the skeleton structure member (12).

FIGS. 1-3



In view of the foregoing, it is respectfully submitted that no corrected drawing sheets need to be submitted.

Also in the prior Office Action, the Examiner rejected claims 1 and 2 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner contends that the claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Applicant respectfully disagrees.

Applicant notes that the specification very clearly describes the subject matter claimed in claims 1 and 2. The Examiner's attention is directed to page 10, line 8 to page 12, line 8, which discloses (bold emphasis added) that:

Fig. 1, Fig. 2 and Fig. 3 show a skeleton structure member according to a first embodiment of the invention. As shown in Fig. 1, **a skeleton structure member 12 for a transport machine** according to a first embodiment (hereinafter written "skeleton structure member 12") has a structure wherein a hollow **skeleton member 11** is filled with multiple granules. The reference numbers 13, 13 denote end closing members for closing the ends of the skeleton member 11.

As shown in Fig. 2, the skeleton structure member 12 is made up of the skeleton member 11 having **a space 16 filled with multiple granules 17**, and **a granule flow allowing part 14** disposed inside the skeleton member 11.

This granule flow allowing part 14, in the first embodiment, consists of a cavity forming member 15. The cavity forming member 15 has a cavity 18.

As shown in Fig. 3, the skeleton member 11 is made up of two cross-sectionally U-shaped skeleton halves 21, 21 and flanges 21a, 21a formed integrally with the edges of the same. The two skeleton halves 21, 21 are brought face-to-face so as to form a cross-sectionally closed space and joined together with the cavity forming member 15 by the flanges 21a, 21a.

The cavity forming member 15 is made up of two cross-sectionally U-shaped forming member halves 22, 22 and flanges 22a, 22a formed integrally with the edges of the same. The two forming member halves 22, 22 are brought face-to-face so as to form a cross-sectionally closed space and joined to the flanges 21a, 21a of the skeleton halves 21, 21 by the flanges 22a, 22a.

The forming member halves 22 are members lower in strength than the skeleton halves 21, made easier to deform by for example being made smaller in plate thickness.

Fig. 4A to Fig. 4C show deformation of a skeleton structure member according to the first embodiment during a crush test.

As shown in Fig. 4A, a load F is applied as a compressive load to the skeleton structure member 12 in its axial length direction. The stroke of a pressing member (not shown) for applying the load at this time, that is, the downward displacement of the pressing member, will be written λ .

As shown in Fig. 4B, when the load F acts on the skeleton structure member 12, an internal pressure arises in the upper part of the space 16 of the skeleton structure member 12 filled with the granules 17. This is because the granules 17 are packed tightly in the space 16.

As shown in Fig. 4C, when the skeleton structure member 12 displaces by a displacement λ , the load in the direction perpendicular to the direction in which the load F is applied becomes large, and as shown with arrows the granules 17 push on the cavity forming member 15 and deform the upper part of the forming member 15 to the inside, i.e. to the cavity 18 side, and the granules 17 move toward the cavity 18 side. Although not as much as the cavity forming member 15, the skeleton member 11 also deforms, to the outside.

Consequently, because the internal pressure of the space 16 does not rise excessively and a predetermined internal pressure is approximately maintained, the cavity forming member 15 and the skeleton member 11 do not deform locally, and do not bend.

After that, the part where the internal pressure is high gradually moves down the skeleton structure member 12, and the skeleton member 11 and the cavity forming member 15 continue deforming as discussed above and absorbing energy.

If the load acting from outside is large and the internal pressure in the space 16 increases further, the cavity forming member 15 breaks, for example by cracks arising in the cavity forming

member 15, and through these cracks **the granules 17 flow into the cavity 18, preventing excessive rising of the internal pressure of the space 16.**

Thus, the specification very clearly discloses the claimed invention.

Reconsideration of the rejection under 35 U.S.C. §112, first paragraph is thus respectfully requested.

Also in the prior Office Action, the Examiner rejected claims 1 and 2 under 35 U.S.C. §112, second paragraph, as failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. By this Amendment, claim 1 has been rewritten to more particularly point out and distinctly claim the subject matter which applicant regards as the invention. In view of the amendments made to claim 1, reconsideration of the prior claim rejection is respectfully requested.

Finally in the prior Office Action, the Examiner rejected claims 1 and 2 under 35 U.S.C. §102(b) as being anticipated by Rozmus, U.S. Pat. 4,547,337. The Examiner contends that Rozmus discloses:

multiple granules 10 packed in a space inside a space bounded by a skeleton member 12 and a panel member 26 around the skeleton member, wherein, to suppress excessive rising of an internal pressure in the space during increase of the internal pressure, a granule flow allowing part, into which the multiple granules can move, is provided close to the granules; wherein the granule flow allowing part is provided inside the skeleton member and comprises a cavity forming member that defines a cavity 18.

Applicant respectfully disagrees with the Examiner's characterization of Rozmus.

Rozmus discloses a method densifying a powder, which can be metallic or non-metallic. With reference to Figs. 1-3, Rozmus teaches placing the powder 10 into a container 12 containing a vacuum through a tube 14. The container 12 containing the powder 10 is then placed within a casting mold 16, and a pressure-transmitting medium 18 is placed into the casting mold so as to surround the container 12. The pressure-transmitting medium 18 comprises a fluidizing means or material 28 (e.g., glass granules or particles), which is retained in the interstices of a skeleton structure 26 formed of a ceramic material. After a few minutes, the pressure-transmitting medium 18 hardens and is removed from the casting mold 16 and placed into a die pot 20. A ram 24 presses down onto the pressure-transmitting medium 18, which transmits pressure evenly against the container 12 and densifies the powder 10 therein. The pressure of the ram 24 converts the pressure-transmitting medium 18 into a composite 18', which can be removed from the container 12 using a hammer. The densified powder 10' is then removed from the container 12.

Rozmus clearly does not anticipate the invention as claimed. The words "skeleton member" mentioned in Rozmus refer to a porous ceramic latticework, and not to a "skeleton member of a transport machine" as claimed in claim 1. And while Rozmus arguably does disclose materials that could be characterized as multiple granules (e.g., the fluidizing glass particles 28, the ceramic material used to form the skeleton member 26, and the powder 10), such materials are not placed within a space inside a "skeleton member of a transport machine" or between the skeleton member and a panel. But most importantly, Rozmus does not disclose a granule flow allowing part provided close to the multiple granules packed in the space,

wherein the granule flow allowing part is adapted to receive a flow of the multiple granules to suppress an excessive pressure increase in the space when an axial compressive load is applied to the skeleton structure member. Nothing of this sort is taught in any way by Rozmus.

In light of the foregoing, it is respectfully submitted that the present application is in condition for allowance and a notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. SHM-16350.

Respectfully submitted,

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